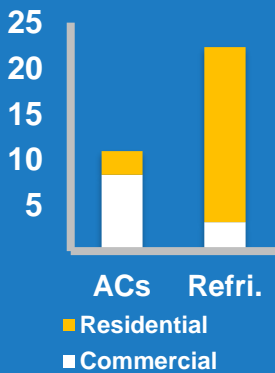


Rwanda Cooling Initiative (R-COOL)

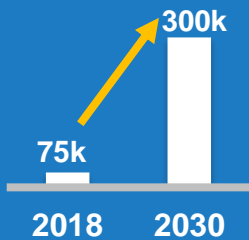
Refrigerators' share of household appliance electricity use in Rwanda ^{1&2}



2018 Annual sales in Billion RWF ³



Rampant Growth In Rwanda's Refrigerators Market ²



Sources:

- Domestic energy consumption patterns in Kigali, Rwanda how disparate are they in view of urbanisation? (2017)
- Conservative estimates form the U4E Country savings assessments 2016
- R-COOL Market Assessment 2018

BACKGROUND

Rwanda's economy, population and electrification level are growing at a robust rate. These factors are key in driving increasing demand for refrigerating appliances and air conditioners, which provide incredible benefits for the health and well-being of Rwandans. However, poor performing technologies that waste energy and exacerbate environmental degradation are quite common.

Improving the energy-efficiency of these products while transitioning to new refrigerants - the gases used in the operation of the equipment - offers an unparalleled opportunity to save residents and businesses money on their electricity bills, reach new customers with existing generating capacity at power plants, reduce peak electricity demand, and mitigate related pollution and greenhouse gas emissions. Rwanda's government is keen to serve as a global leader in unlocking these benefits and sharing insights on how others can achieve similar success.

PROJECT

UNEP's United for Efficiency (U4E) initiative is conducting market transformation projects in 40 developing and emerging economies around the world. U4E brings together leading experts from international organisations, the private sector, and civil society groups to provide tailored technical assistance to participating governments and stakeholders. Support can range from developing model regulations and outreach campaigns to assisting with market monitoring, product testing, piloting financial mechanisms, recycling used equipment, and beyond. U4E has also developed a variety of tools, guidance, and training packages for policymakers and practitioners.

In 2017, U4E was selected by a new philanthropy - the Kigali Cooling Efficiency Program (www.k-cep.org) - to pursue a market transformation project with Rwanda. The resulting Rwanda Cooling Initiative (R-COOL) was launched in early 2018. The aim of R-COOL is to showcase the myriad benefits of a rapid and comprehensive transition to energy-efficient and climate-friendly air conditioners and refrigerators. With the nation's capital as the namesake of the *Kigali Amendment to the Montreal Protocol*, it is fitting that Rwanda is interested in pursuing rapid action and serving as an exemplar. The East African Centre for Renewable Energy and Energy Efficiency will help disseminate findings and encourage replication by other East African Community nations.



ACTIVITIES

Market Assessment. An in-depth market assessment has been undertaken to gather data and stakeholder input on the current stock and future projections of refrigerators and air conditioners in the country, the impacts on electricity demand and other factors, the supply chain, and key actors (e.g. importers, distributors, retailers, installers, service companies, financial providers, and civil society organisations).

Cooling Strategy. Rwanda's [National Cooling Strategy](#) was developed in consultation with government officials and stakeholders. It includes:

- insights from the market assessment on the status and growth of Rwanda's cooling sector;
- Minimum Energy Performance Standards (MEPS) and supporting policies (e.g. product labels) for refrigerators and air conditioners;
- links to the country's existing energy policies, refrigerant transition plan, Nationally Determined Contribution, etc.;
- an overview of the potential to use financial mechanisms to address first-cost barriers to adoption of higher-performance products;
- recommendations on using a national product registration system and drafting a strategy addressing the cold chain;
- insights on how to address cooling demand through building codes, use of shading and cool roofs, operations and maintenance, etc.

Financial Mechanism. Economic and financial analysis has been developed to assess the returns on investments of new technologies. Based on the findings and the interests of participating organisations, several financial mechanisms are under development to help address some of the key barriers to purchasing clean and efficient products. These include a dedicated leasing product called [Coolease](#) for energy-efficient cooling, as well as an [on-bill financial mechanism](#) (repayment of a new product assessed as part of the utility bill). Local financial service providers, authorities, the electric utility and technology providers are helping to lead the development process. Suitable risk coverage instruments (e.g. standardized contracts, guarantee funds) are being integrated. The on-bill financing mechanism alone is expected to unlock ~\$4 million in financing for clean and efficient cooling.

Capacity Building and Outreach. The project team supports the implementation of recommendations from the National Cooling Strategy by helping to train key parties in Rwanda on their expanded responsibilities in the cooling arena. A national awareness campaign is being conducted targeting residents and businesses on sustainable cooling, such as how to comply with MEPS and how to use energy labels to make informed purchasing decisions.

Estimated Benefits in 2030 from Transforming Rwanda's Cooling Market*



Save 164 GWh of Electricity



Increase electricity energy availability on the grid to connect ~70,000 homes



Save customers \$40M in Energy Bills



Mitigate 109 kilotonnes of CO2 emissions

Source: U4E Country Savings Assessment for Rwanda, 2016.

*Note: Based on the MEPS that were adopted in 2019. Household consumption was assumed at 20 kWh per month.

PARTICIPANTS

R-COOL's success depends on the input and collaboration of a range of organisations from the public, private and non-profit sectors. The Rwanda Environment Management Authority under the Ministry of Environment and Rwanda Ministry of Infrastructure will provide overall strategic guidance and input on key deliverables to U4E's project team. For more information on how to get involved, please contact R-COOL's project lead, Morris Kayitare, at morris.kayitare@un.org or U4E's coordinator Brian Holuj, at brian.holuj@un.org.

For more information, please visit: www.united4efficiency.org | www.k-cep.org